Kolyma, and he was thus enabled to obtain a glimpse of the shores of the Arctic Ocean. He accomplished the 500-mile journey in twelve days, in a frail open boat, made of very thin wooden planks sewn together with twisted willow-strands, the holes being plugged with moss and the cracks filled with the gum of the larch. Having reached Nijne-Kolymsk at the time of the fishing, he stayed there part of the summer and the winter, so that he could visit the lonely spot of Sukharnoye, as also some Chukchee encampments.

The pages given to the description of the Yukaghirs and the Yakutes settled along the lower course of the Kolyma, especially to the Chukchees, as also the legend about the disappearance of the small tribe of the Kangenici, will be read with deep interest and sympathy. All the little scenes sketched by the author bear the stamp of truthfulness and artistic feeling.

P. Kropotkin.

## WAR BREAD.

The public has been led to feel some anxiety concerning the effects of the present war bread upon national health and efficiency. Suggestion plays an inevitable part in such a connection. Certain untoward symptoms in individuals, for which some other tangible cause is not immediately evident, are liable just now to be ascribed on the slenderest evidence to the bread eaten. Once the belief in a deleterious influence has arisen, it is easy to understand how widely it may spread by suggestion. In the opinion of those best qualified to know, there would seem to be little basis for any such condemnation of the bread. It rests, nevertheless, with the Food Controller to obtain the best possible evidence concerning the facts, and we are glad to know that Lord Rhondda and the Wheat Commissioners have empowered a committee of the Royal Society to make a full and thorough investigation. This committee comprises some eminent medical consultants, as well as the physiologists who have been serving on the main Food Committee of the society. Its task is to decide whether the higher extraction of the grain can in itself be held responsible for any disturbance of health, and whether the admixture of other cereals with the wheat has produced a less digestible loaf, owing, for instance, to the associated difficulties in milling and baking.

Among other matters which are also engaging the attention of the committee is a greater tendency to "rope" in the bread, alleged to be due to the higher extraction of the grain. The habits of *Bacillus mesentericus*, which, in its various strains, is responsible for ropy bread, are already well known to bacteriologists, and, empirically at least, to all the better informed among practical bakers. There is no reason to doubt that with the increased knowledge now being acquired any outbreaks of rope will in the future be easily controlled. That the presence in the loaf of cereals other than wheat can be directly harmful is most unlikely. A favourable effect should indeed be seen in a somewhat improved balance in the protein supplied. Maize, it is true, is said to be badly tolerated by certain individuals, though such cases must be rare. It is also stated that the starch of maize is not fully gelatinised when it is cooked in admixture with wheat under conditions suitable for the production of an all-wheat loaf.

These and other points will doubtless receive the attention of the investigating committee. Its most important task, however, will be to decide, by a thorough sifting of the evidence, the more general question as to whether the war bread is, as a matter of fact, producing any ill effects at all upon the public health. The public will be glad to know that the Food Controller is in possession of the facts.

Meanwhile, since it is of the utmost importance to the nation that a full supply of bread shall be maintained, while the amount of wheat available is not sufficient for the purpose, we are glad to observe that the medical Press is urging the profession to see that the privilege of obtaining high-grade wheat flour for cases supposed to have suffered from the war bread is at any rate not abused.

## NOTES.

Mr. Alan A. Campbell Swinton has been elected chairman of the council of the Royal Society of Arts for the ensuing year.

The Asiatic Society of Bengal has awarded the Barclay memorial medal to Col. H. H. Godwin-Austen, for his work in biology. The medal is awarded every two years to the individual who during that period has made the most meritorious contribution to biology with special reference to India.

Dr. J. B. Cleland has been elected president of the Royal Society of New South Wales. After graduating in medicine, Dr. Cleland visited China and Japan, and later proceeded to this country, where he remained for several years, being for part of the time cancer research scholar at London Hospital. On returning to Australia, he was appointed Government pathologist and bacteriologist in Western Australia. In 1908 he became principal assistant microbiologist to the newly instituted Bureau of Microbiology in Sydney, and in 1913, on the amalgamation of the bureau with the Department of Public Health, he was appointed principal microbiologist. He has also been associated with the experimental work of the Department of Agriculture.

Referring to Dr. Collinge's recent article on "The Destruction of House-sparrows" (Nature, June 28, p. 347), Dr. W. A. Hollis writes to say that the assumption that the corn found in the stomachs of the adult birds has been taken from the fields is, he believes, an erroneous one, and that in nine cases out of ten it is obtained from horse-droppings, as the house-sparrow rarely, if ever, goes far afield. At first sight this might appear so, but Dr. Hollis has overlooked the fact that the material upon which Dr. Collinge bases his argument was purposely obtained from agricultural districts, and in his account of the stomach contents of those birds obtained from suburban districts it is stated that the wheat was obtained "most likely from horse-droppings." The house-sparrow is, unfortunately, very far from scarce in agricultural districts, and at present immense flocks from the towns and villages are adding to its number, the majority of which will remain until well into September.

We regret to see the announcement of the death on July 22, at sixty-one years of age, of Mr. Alfred Mosely, C.M.G., whose work for industrial and educational efficiency is widely known. In the year 1903 Mr. Mosely organised an Educational Commission of leading representatives of science and education, including such men as Profs. Armstrong, Ayrton, and Ripper, to visit the United States. The twenty-six separate reports published in 1904 in the volume on this Educational Commission covered the whole field of education, from the kindergarten to post-graduate university work, and they provided the public with a very valuable statement by competent observers of the provision made for progressive education in America. In 1907 Mr. Mosely sent several hundred English school teachers to America to study the educational methods adopted in the United States and Canada, and himself about the same time made prolonged tours in those countries, during one of which he arranged for a return visit of 1000 school teachers to this country in 1908–9. Mr. Mosely was the author of a number of pamphlets and reports on industrial and educational matters and economics.

According to a paragraph in *L'Economista d'Italia* of July 13, the Italian Royal Geological Commission has just presented the report of its work to the Government. The Commission recommends that immediate steps be taken to enable the Reale Ufficio Geologico to accelerate the preparation and publication of the geological map of Italy, which is a vital necessity in view of a recrudescence of activity being manifested in mineral prospecting and hydro-electric developments. Recommendations have also been made for the publication of the results of artesian well and mineral surveys which have been carried out in the country, since much importance is attached at present to a knowledge of the hydrological and geological data. It is also considered desirable that the collection of samples of Italian fossil-fuels at the Royal Geological Museum should be made as complete as possible, and that the authorities should proceed at once to publish the sheets (now completed) of the geological map which concern the mountainous regions, in view of the attention now being paid to the more extensive utilisation of Italy's water resources for power-raising.

The *Indian Forester* for May contains an article on the organisation of the Chinese Forest Service, which came into existence in January, 1916, as a subordinate branch of the Ministry of Agriculture and Commerce at Peking. The heads of the service, styled "co-directors," are Mr. Forsythe Sherfesee, for six years employed in, and lately director of, the Philippine Forestry Bureau, and Mr. Ngan Han, who studied forestry in Cornell and Michigan Universities several years ago. There are other Chinese in the service, who have received a technical training in the United States, and an expert from Kew, Mr. W. Purdom, acts as botanist, and is chief of one of the six divisions into which the service is organised. In this article an ambitious programme of afforestation, education, propaganda, etc., is sketched out, but no details are given of any work that has been actually accomplished. The amount of funds available is not mentioned, and no information is given as to how the existing forests are to be brought under Government control, or of how land is to be acquired for afforestation. In the course of two or three years we may learn in what directions forestry can be developed in China.

In his presidential address to the conference of delegates of the British Association, held at Burlington House on July 5, Mr. John Hopkinson dealt with the work and aims of the corresponding societies. Mr. Hopkinson first suggested, nearly forty years ago, that delegates from the different societies should hold an annual conference at the British Association meetings, and it must have been some satisfaction to him to preside over what is now an important annual event for many of the representatives of the scientific societies in this country. He gave a review of the work of the British Association as affecting the corresponding societies, dealing in turn with the various sections of the association. His address was so varied in its scope that each member of his audience must have felt that some of it at least had particular reference to his or her special study. It was not the address of a specialist, but on general lines, as might have been expected from a naturalist who has been so long the secretary of an important provincial society. Among the subjects dealt with were meteorology, geological photographs, bird protection, Desmids and Diatoms, maps, free trade, Kent's Cavern, the teaching of Greek, museums, and forestry. Mr. Hopkinson concluded that the chief aim of all of us should be

To make the world within his reach,
Somewhat the better for his being,
And gladder for his human speech.

Prof. J. H. Barnes, whose death was announced in Nature of July 5, was educated at Five Ways Grammar School and the Birmingham University. After obtaining his degree, he spent some time in research work under Prof. Frankland, and in 1906 was appointed agricultural chemist to the Punjab and in charge of the Lyallpur College, one of the new agricultural colleges of India, of which two years later he was appointed principal, and which post he held until a few months before his death, when he was appointed chief chemist at the Pusa Institute to the Government of India. He was responsible for a considerable amount of agricultural research work, some of which is destined to make a great addition to the resources of the country, notably in the cultivation of the sugar-cane and wheat-growing. During the last few years he had been responsible for the experiments dealing with the reclamation of the alkali barren lands, which he had shown by his experiments to produce even record crops of wheat for India, and may revolutionise agriculture in certain of these districts. At the same time, he instituted a series of experiments showing the means of preventing various insect pests which are the great drawback to the methods of storing wheat. For his work on the Indigo Commission he was accorded the thanks of the Government of India. All this was carried out under great personal disabilities, for early in his official life he was attacked by malarial fever, from which periodically he suffered severely, especially during the last year or so of his life, which was eventually cut off by an attack of enteric fever on June 2. He was greatly loved and respected by all, especially by his Indian students, who at the time of his leaving the Lyallpur College collected funds to institute a scholarship at the college as a permanent memorial of his service there.

With Dr. C. O. Trechmann, who died on June 29, at his residence, Hudworth Tower, Castle Eden, passed away one of the small band of private collectors of minerals and one of the still smaller brotherhood of crystallographers in this country. He was born at Hartlepool, co. Durham, in 1851. His father, who was a Dane by birth, settled in the north of England in 1843, and five years later, in 1848, founded the Portland cement works now known as Otto Trechmann, Ltd., at West Hartlepool, which are among the oldest works of the kind in the kingdom. Dr. Trechmann studied chemistry under Bunsen, and obtained his doctorate of philosophy at Heidelberg. On returning home he entered his father's business, and it was largely to his energy and ability that the development and prosperity of the works were due; on the conversion of the business into a limited liability company, he became chairman and managing director, a position he held until his death. While at Heidelberg he became interested in minerals, and started the formation of the collection which constituted the principal hobby of his life. Being a crystallographer, he had a keen eye for a well-crystallised specimen, and at his death the collection had grown to a considerable size and comprised specimens of much scientific value. At one period he was attracted by the minerals occurring in the famous quarry just off the valley of the Binn, and one of the sulpharsenites of silver found there was named trechmannite after him by its discoverer, Mr. R. H. Solly. He bequeathed some of the best specimens in his collection to the British Museum. Despite the calls of business, he contrived to find time to engage in crystallographical research, and published many papers, several of them dealing with the minerals found at Binn; his work was characterised by careful observation and skilful draughtsmanship. In later years he turned to entomology as a recreation, paying especial attention to exotic Rhopalocera and to Diptera, of which he made a local collection of considerable scientific value.

Mr. Henry Balfour discusses, in the July issue of *Man*, certain primitive forms of agricultural implements from the Naga Hills, Assam. A remarkable form used by the Sema, Lhota, and some eastern Nagas consists of a slip of bamboo, with a sharp edge, twisted into a shape like a necktie, which is used for eradicating weeds from crops. This has the disadvantage of being very perishable and, becoming supplanted by iron-bladed hoes, shows signs of obsolescence. But it is noteworthy that the original type of the bamboo weeder has been reproduced in iron. Thus, as the final result, we have four types: first, the bamboo "necktie" hoe; secondly, the copy of it in iron; thirdly, a two-tanged blade, hafted to two wooden rods, forming prolongations of the tangs, the ends of which are crossed, and so retain the "necktie" shape of the prototype; and, lastly, the same type of blade, hafted to a **Y**-shaped handle cut from a single piece, in which the single grip replaces the awkward **X**-shaped handle, the result being an eminently serviceable tool. The series is an admirable instance of clearly marked stages in the evolution of agricultural implements.

Prof. Flinders Petrie notices a series of photographs from Abu Simbel depicting various racial types in *Ancient Egypt* (part ii., 1917). One of the most interesting represents a man with a long retreating forehead running up to a peak to the back of the head, with rolls of flesh on the back of the neck below the occiput. The same form of head is characteristic of the Armenians of to-day, though accompanied by a larger nose, and the Egyptian example seems to belong to a nation east of Asia Minor, somewhere about the head-waters of the Euphrates. Another, classed as North Arabian, has traces of an earring, which is an Assyrian characteristic, and this man may come from a region not greatly geographically separated from that of the first example. The Hittite type is marked by the thickness of hair ending in a curl below the shoulder. Another specimen, wearing a long cap with a sort of hanging tassel, is shown by the analogy of a type represented on the gates of Balawat to be that of a Phœnician boatman. Thus, of the ten examples, two seem to come from Armenia or its neighbourhood, and the others belong roughly to North and South Galilee.

The expedition which Dr. Hamilton Rice led to the Amazon returned to New York this spring. From the *Geographical Review* for June (vol. iii., No. 6) we learn that after an ascent of the Amazon to Iquitos, the expedition returned to Manaos to undertake the ascent of the Rio Negro, which was to be the principal work of the expedition. In a river steamer the expedition reached Santa Isabel, and thence in a steam launch successfully traversed the difficult stretch of river to São Gabriel. Further progress proved to be impossible on account of low water. An attempt was made to ascend the Padauiry, a left tributary of the Rio Negro, but an immense sandbank blocked the way. The expedition then descended to Manaos, and Dr. Rice decided to return to the United States on account of the war news and other circumstances.

In the *Geographical Review* for June there are two articles which deal in a most instructive way with the Eastern theatre of war in Europe. The first is by Prof. de Martonne on the Carpathians. Attention is paid particularly to the physical features controlling human movements, and the article gives a clear presentment of the complicated relief of the region. There is a good coloured relief map, besides several diagrams. The second article, by Mr. D. W. Johnson, on the conquest of Rumania, describes the geographical features of the country, especially in relation to the campaign of 1916. The author shows how geographical conditions favoured a Rumanian invasion of Bulgaria through the Dobrudja, but political considerations overruled this plan and embarked Rumania on an invasion of the Transylvanian plain, a project which materially assisted the success of the German plan for the conquest of Rumania.

In a paper published in the *Scottish Geographical Magazine* for June (vol. xxxiii.) entitled "The Weddell Sea: An Historical Retrospect," Dr. W. S. Bruce has been at great pains to clear up the fog of obscurity which hitherto has enveloped the early history of exploration in that part of the Antarctic. With the exception of Mr. E. S. Balch's work on early American explorers, this paper is almost the first scholarly contribution to the history of the Antarctic, and, in view of the uncertainty that has prevailed regarding questions of priority in the Graham Land region and the trustworthiness of early accounts, this work was much needed. By persistence in following up clues Dr. Bruce has unearthed much previously overlooked material and several original log-books. The earliest explorers of the Weddell Sea were William Smith and Capt. Ed. Bransfield, R.N., in the brig *Williams*, early in 1820, subsequent to Smith's discovery of the South Shetlands in 1819. On this voyage they were the first to sight the mainland of the Antarctic continent, which Bransfield named Trinity Land. This point is of great interest, because it was previously held that the claim of the American sealer, N. B. Palmer, in 1821, has priority. As regards the discovery of the group known as the South Orkneys, Dr. Bruce recalls that priority belongs to Powell, who sighted them in December, 1821, and that Weddell six days later named them South Orkneys. Powell had regarded them merely as an extension of the South Shetlands, but they appear as Powell Group on the chart of 1822. Dr. Bruce, however, recognises the undesirableness of changing the name of South Orkneys, which has now become established by long usage. Further interesting matter in this paper is an examination of the evidence of Morell, Ross, the *Scotia*, and others of land in the western part of the Weddell Sea. A critical examination of all this matter by a man who is familiar with polar conditions from personal experience sheds a new light on the question, and is most important in view of the forthcoming publication of Sir E. H. Shackleton's results. Finally, the full bibliography accompanying the paper should be noted.

THE Ministry of Trade of the Australian Commonwealth publishes "Further Investigations into the Etiology of Worm Nests in Cattle due to *Onchocerca Gibsoni,*" by Drs. J. B. Cleland, S. Dodd, and E. W. Ferguson. Experiments have been tried as to the transmission of the larval worms by biting flies. As regards *Stomoxys calcitrans* the results are negative, but the authors consider that certain Tabanidæ may possibly act as carriers.

IN collaboration with Messrs. Harrison G. Dyar and F. Knal, Dr. Howard has completed the great monograph on the "Mosquitoes of North and Central America and the West Indies" (vol. iv., Carnegie Institution, Washington, 1917). The volume now issued contains the second part of the systematic description of genera and species, with appendix and index, and extends to more than 500 pages. Each genus and species is treated with an exhaustive synonymy, a full description of the imago and of any larval stages known, and in most cases with valuable bionomic details.

PROF. ULRIC DAHLGREN, of Princeton University, contributes a further instalment of his valuable series of essays on the "Production of Light by Animals" to the Journal of the Franklin Institute for July. In the present contribution he gives an able summary of what is known in regard to the production of phosphorescent light among the Tunicates and the fishes. In thus summarising the extensive and widely scattered literature on this theme Prof. Dahlgren has performed a very useful piece of work.

DR. G. A. BOULENGER contributes to the Annals of the South African Museum (vol. xii., part vi.) a long memoir on the genus Nucras, which, he convincingly shows, must be regarded as the most primitive of the Lacertidæ. He bases his conclusions partly on geological evidence and partly on a study of its geographical distribution and coloration. The latter aspect of this subject forms the material for two plates, which will well repay careful study. In the same issue he also describes a new South African lizard of the genus Eremias.

THE second of the series of reports which are to appear on the Australian Antarctic Expedition, 1911-14, has just been published. This is devoted to the Mollusca, forming part i. of vol. iv. The author, Mr. C. Hedley, analyses the results of dredgings at twelve stations on the coast of Adelie Land and of collections at Macquarrie Island. About one-third of the Mollusca prove to extend to Kerguelen, and some range round the Pole to the Falklands. More than 125 species are enumerated, of which forty-one are new to science. Two new genera are also described. Nine excellent plates add greatly to the value of this very able report.

WHILE the construction of great dams across natural streams for the purpose of diverting, or storing, their waters must inevitably disfigure the landscape in the immediate vicinity of the dams, this disfigurement may be amply atoned for by the creation of large lakes capable of vastly increasing the supply of food-fishes. Mr. A. D. Ferguson, of the California Fish and Game Commission, in *California Fish and Game,* vol. iii., No. 2, tells how this has been done in the case of impounding dams in the Sierra Nevada mountains. The building of the Crane Valley dam created the Bass Lake, a sheet of water six miles long, half a mile wide, and 100 ft. deep. This water is now teeming with trout and black bass, artificially introduced, affording a fishing resort for hundreds of people. Huntingdon Lake, in Fresno county, was similarly created by a dam 120 ft. high, impounding 150,000 acres of water. This has been stocked with rainbow and Loch Leven trout, and is the resort of thousands of people from all parts of the State. The primary purpose of the dam was to serve as a generating station for the Pacific Light and Power Corporation. In this way purely commercial ventures have been made to add both to the natural beauties of the country and to its productiveness.

THE plant ecology of the Drakensberg Range forms the subject of a beautifully illustrated paper by Prof. J. W. Bews, in vol. iii., part iii., of the Annals of the Natal Museum. In the opening pages the geological structure of the range is briefly described, and diagram sections of the horizontally placed beds are given. The striking feature of the range is the great mass of basalt and amygdaloidal lava which forms the main portion of the escarpment and produces the magnificent scenery of the Mont-aux-Sources. The vegetation of the higher parts of the Mont-aux-Sources has long been known to be peculiar, and it is a matter for regret that Prof. Bews does not give an account of it in greater detail. He distinguishes ten types of vegetation and gives lists of the plants characteristic for each. A number of the plants appear to be unidentified, which, considering the work recently done on South African botany, both at Kew and at the Cape, need not have been the case. On the mountain-tops the vegetation shows remarkable adaptations to dry conditions, the soil occurring only in depressions, the rest of the surface remaining bare rock.

PROF. R. B. YOUNG (Trans. Geol. Soc. South Africa, vol xix., p. 61) usefully develops F. Hinden's test for calcite in the presence of dolomite. After attacking the calcite on a thin section of rock with the solution of ferric chloride, thoroughly washing, and drying, a stream of sulphuretted hydrogen is turned on for a second or so, which blackens the calcite crystals.

MR. F. S. SPIERS, secretary of the Faraday Society, writes as follows:—"Will you permit me to correct a misapprehension which may arise out of a report in NATURE of July 12 (p. 393) on a joint meeting of the Society of Glass Technology with the Faraday Society which took place last month at Sheffield, to discuss the choice of refractory materials for use in the glass industry? In referring to an appeal which was made to glass-makers to make known their difficulties regarding refractories it was stated that the main object of the Faradav Society was to concentrate on these difficulties. This reference should have been, not to the Faraday Society, but to the Conference on Refractories Research, which has been constituted from all the interests concerned with refractory materials for the purpose of considering how best to co-ordinate and promote further the study of this subject."

AT the outbreak of war there was in this country a serious shortage of refractory material and of acid-proof apparatus such as is used in chemical works;

it had been largely stoneware imported from Germany. Fused silica ware has to some extent been able to make good the deficiency, and has helped to equip numerous factories erected in connection with the supply of explosives, especially as regards apparatus for the concentration of sulphuric acid and the condensation of nitric acid. Dr. F. Bottomley gives details of plants fitted with fused silica condensers, evaporators, etc., for these two acids, in the Journal of the Society of Chemical Industry for June 15, and also outlines the progress which has been made in the production of fused silica apparatus generally. Sixteen years ago small articles of silica were made by laboriously fusing quartz a few grains at a time in the oxyhydrogen blowpipe flame; at the present day the weight of fused material which can be worked exceeds 200 lb. The temperature required is between 1800° and 2000° C. In the plastic condition the silica is very ductile, and can be drawn out like glass in lengths of 90 to 100 ft.

Technologic Papers Nos. 83 and 84 of the U.S. Bureau of Standards represent continuations of Merica and Woodward's work on the "Failure of Brass" (No. 82). In the former an account is given of the study of the effect of tensile stress on the electrolytic solution potential of brass to various solutions, the results indicating an increase of E.M.F. of about 0·1 millivolt per 10,000 lb./sq. in. of stress. An explanation is given, based upon this effect, of the decreased ductility and strength exhibited by brass, where corroded while under tensile stress, and describes the growth of fissures in brass under such conditions. In the latter the results are recorded of an investigation of the initial stresses produced by the burning-in, without pre-heating, of constrained parts of castings of manganese bronze. Results have shown that, in general, tensile stresses will be produced within the burned-in area equal in value to the true elastic limit of the material. The conclusion is drawn that burning-in of such material should not be practised without thorough pre-heating or subsequent annealing of the whole casting.

The *Biochemical Journal* for May contains a paper by Mr. H. E. Annett describing the isolation of raffinose from the seed of the jute plant (*Corchorus capsularis*). The sugar was identified by its content of water of crystallisation, specific rotatory power, and the change of the latter when the sugar was acted upon with emulsin, invertase, and melibiase. Further, the sugar does not give an osazone, but from the products of its hydrolysis with invertase, glucosazone and galactosazone were isolated. The sugar was isolated by extracting the finely ground jute seed, which had previously been exhausted with ether and petrol, with alcohol, and precipitating the alcoholic extract with ether. The particular sample of seed examined contained 2·25 per cent. of raffinose.

Of the chemical changes induced in amino-acids by bacterial action, the most common and the one that has been most studied is simple decarboxylation. It is by this process that putrescine and cadaverine are formed in the putrefaction of ornithine and lysine respectively. The deaminisation (*i.e.* loss of ammonia) of amino-acids by bacteria is usually accompanied by reduction, *e.g.* in the production of *p*-hydroxyphenyl-propionic acid from tyrosine. Mr. H. Raistrick, however, in the *Biochemical Journal* for May, describes the formation of an unsaturated carboxylic acid by the action of bacteria on histidine. This author avoided any possible secondary reactions by arranging that the histidine was the only organic substance present in the medium on which the bacteria were cultivated. When *B. coli communis, B. typhosus, B. paratyphosus* A, *B. paratyphosus* B, *B. enteritidis,* Gaertner, or *B. dysenteriae,* Flexner, is grown on a medium consisting of Ringer's solution + histidine (β-iminazolyl-α-amino-propionic acid), from 5 to 60 per cent. of urocanic acid (β-iminazolylacrylic acid) is formed, the largest proportion with *B. paratyphosus* A, and the smallest with *B. typhosus.* The acid was identified by analysis, melting point, and preparation of the picrate and nitrate. This is the first instance on record of the bacteriological conversion of an amino-acid into an unsaturated acid.

Mr. John Murray's list of announcements for the coming autumn contains several works which should be of interest to readers of Nature, *e.g.* "The Life and Letters of Sir J. D. Hooker, O.M., G.C.S.I.," by Leonard Huxley, two vols.; "The Life of Sir Clements Markham, K.C.B., F.R.S.,' by Admiral Sir A. H. Markham; "The Life of Sir Colin C. Scott Moncrieff," edited by Miss M. A. Hollings; "Rustic Sounds and other Studies in Literature and Natural History," by Sir Francis Darwin; "Volcanic Studies in Many Lands," by the late Dr. Tempest Anderson; second series, "Cotton and other Vegetable Fibres," by Dr. E. Goulding (Imperial Institute Handbooks), and a new and revised edition of "The Book of the Rothamsted Experiments," edited by Dr. E. J. Russell.

Messrs. J. Wheldon and Co., 38 Great Queen Street, Kingsway, have just issued a catalogue (New Series, No. 80) of books and papers on chemistry, pure and applied, mineralogy, mining, and geology. The list contains many works published in enemy countries and therefore difficult to obtain new at the present time; also the modern library of Mr. Andrea Angel, who lost his life in the East End explosion in January last. The catalogue will be sent free upon application.

## OUR ASTRONOMICAL COLUMN.

Meteors on July 19.—Though meteors were singularly rare in the two hours before midnight on July 19 they were rather abundant and brilliant after midnight. At 12h. 12m. G.M.T. one of magnitude 1 shot rapidly from 339°+72° to 261°+41°, and left a bright streak. Its radiant was probably between α and β Persei. At 12h. 18m. a meteor exceeding magnitude 1 passed from 320°+35° to 317°+27°, and was directed from Cepheus. At 12h. 37m. a very fine meteor with an extraordinarily long course of 89° travelled slowly from 328°+11° to 238°+10°, and left a bright streak in its wake. At 13h. 35m. a blue, flashing meteor shot rapidly down across the star η Pegasi, and was directed from a shower near α Cygni or at 316°+48°. At 13h. 50m. a tolerably bright meteor, leaving a streak, crossed the cluster in Perseus from a radiant at 40°+20°, and at 14h. 15m. a bright Perseid, leaving a streak, shot from 326½°+17½° to 316°+6°. Duplicate observations of any of these interesting objects, if sent to Mr. W. F. Denning (44 Egerton Road, Bristol) would enable their heights, etc., to be computed.

Annuario of the Rio de Janeiro Observatory.—The thirty-third issue of this useful publication has recently been received. It contains numerous ephemerides and other astronomical data, together with an excellent collection of tables for the reduction of astronomical observations. A section is devoted to terrestrial physics, with special reference to the magnetic elements and the intensity of gravity, and another includes details of meteorological observations made at twenty-five stations in Brazil. Tide-tables for seven Brazilian ports, calculated with the aid of the Kelvin tide-predictor, are also included in the volume.